



JUNE 28 - 30, 2005 NORFOLK CONVENTION CENTER

Setting the Stage

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Code 280

SPAWAR Systems Center San Diego

29 June 2005

Statement A: Approved for public release; distribution is unlimited (29 JUNE 2005)

Communications and Networking Session

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Provide an overview of the Communications and Networking vision for FORCEnet, identify core transformational enablers and planned milestones to achieve that vision and outline the proposed way ahead, including anticipated challenges.

What you will see and hear

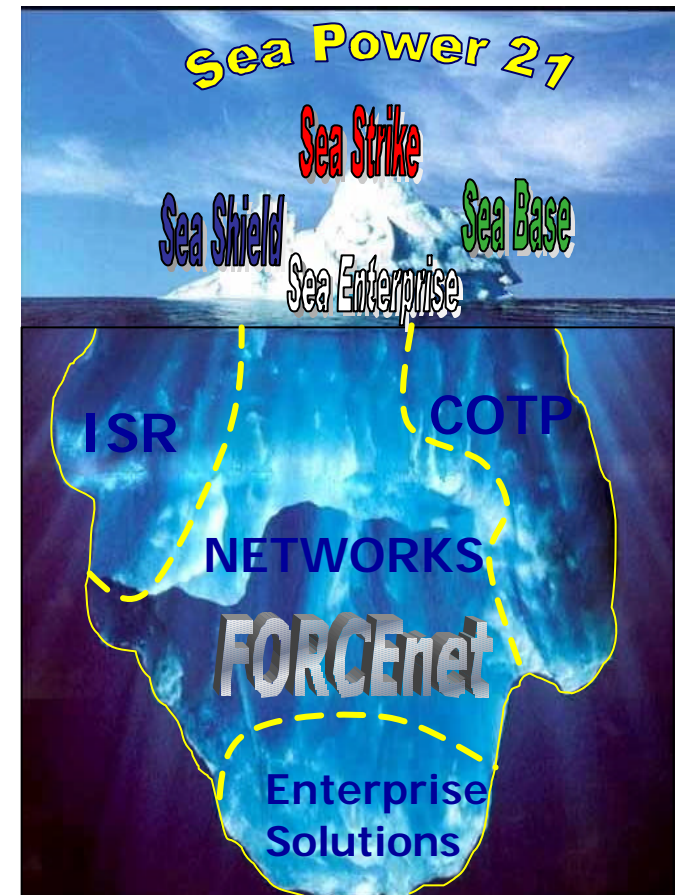


- Major efforts/programs that are enablers for achieving the FORCEnet Vision
- Gaps and Challenges addressed by the programs
- High Level Schedule
- How to get more information

FORCEnet Goals & Issues



- **Get everyone on protected nets**
 - Network defense-in-depth
 - Sufficient communication & network infrastructure
 - Assured connectivity to nodes
- **Get the right info to the right place**
 - Current Local Links Saturated
 - Established COTP for all users
 - Flawless combat ID & blue force tracking
 - Persistent, collaborative ISR
 - Universal access to authoritative databases
- **Meet prerequisites to achieve leap in capability**
 - Information Access/ID (JC3IEDM)
 - Direct Link to Kill Chain

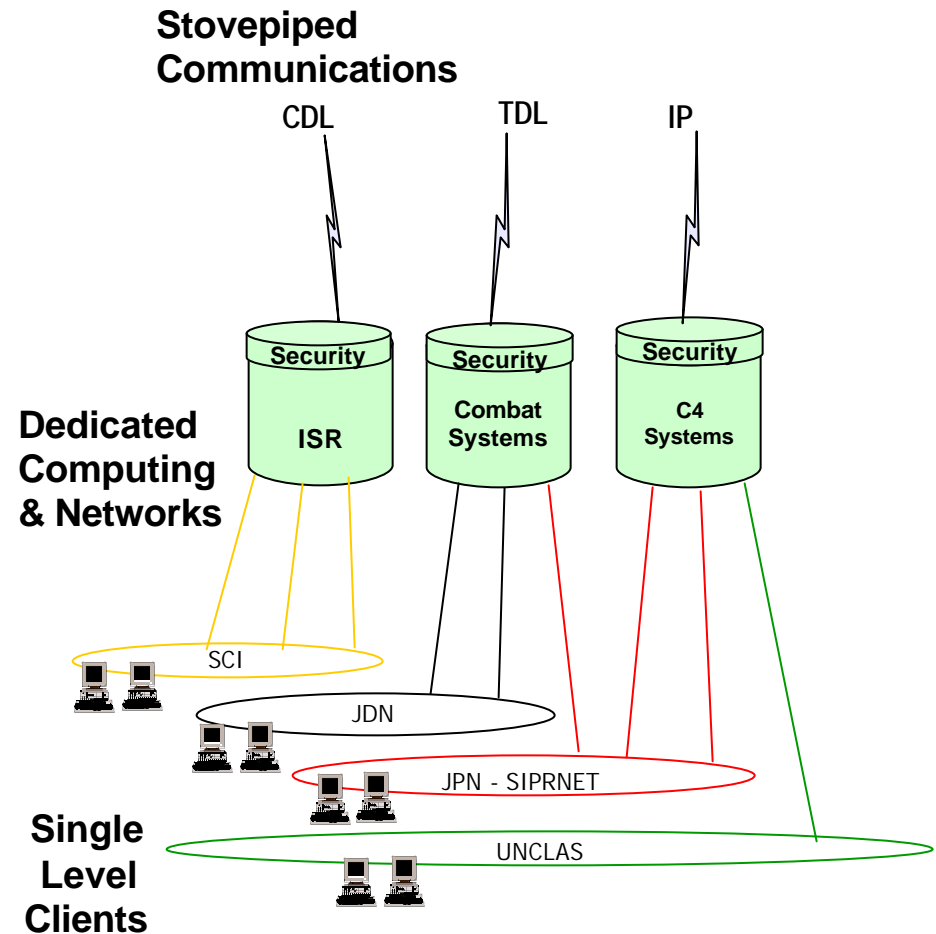


Current C4I Environment



IT21 Today

- Bandwidth Constrained
- Stovepiped Systems
- Inefficient Use of Resources
- Little Redundancy
- Multiple Enclave and Application Specific Networks
- Isolated Coalition Enclaves
- Stovepipe Raw Data Streams to Operator
- Inconsistent Data Quality Across Information, Sensor and Engagement Networks



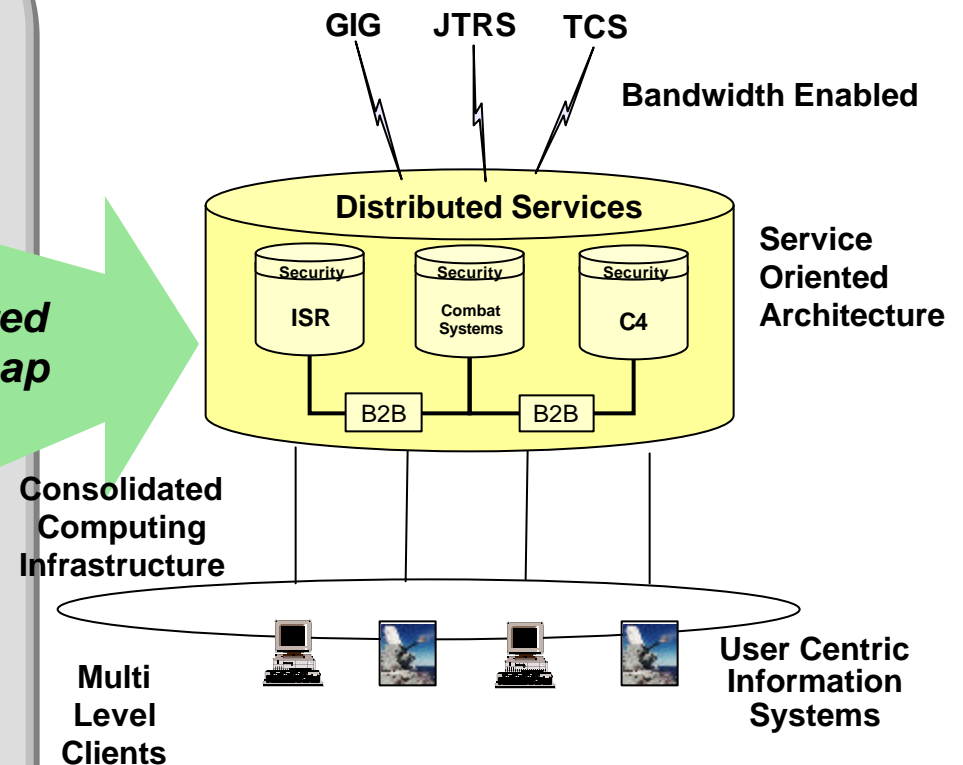
The Future Vision: NCW



NCW Objectives

- Remove Bandwidth as a Capability Limit
- Multi-path Transport & Redundant Paths
- Capability on Demand
- Distributed Operations
- Customized Applications
- Multi-User Access
- Customized Delivery
- Assured Sharing
- Information Provided to Operator is Relevant, Timely, Accurate, and Usable

*Integrated
Roadmap*

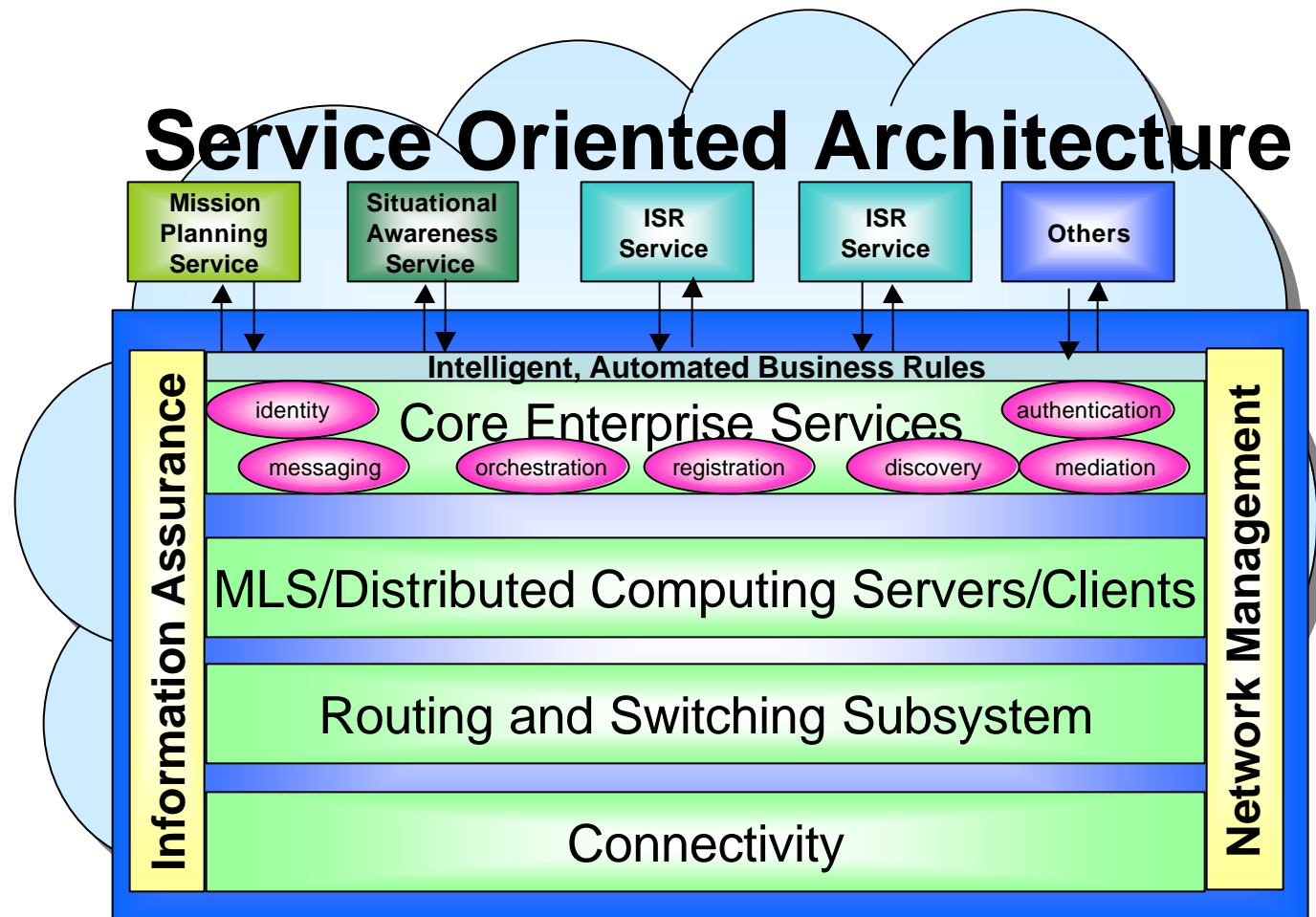


Session Tracks mapped to Enterprise Network Architecture



Track 4
Track 3
Track 2
Track 1

Service Oriented Architecture



Session Tracks mapped to OSI Model



OSI Model

- Application layer
- Presentation layer
- Session layer
- Transport layer
- Network layer
- Data link layer
- Physical Layer

Track 4

Ability to uniquely identify, find, and publishing services, for enterprise information sharing...

Track 3

Full service assured network availability, information protection and delivery...

Track 2

All paths are utilized to the fullest extent (e.g Dynamic BW allocation, E2E QoS, Converged V, V, D)...

Track 1

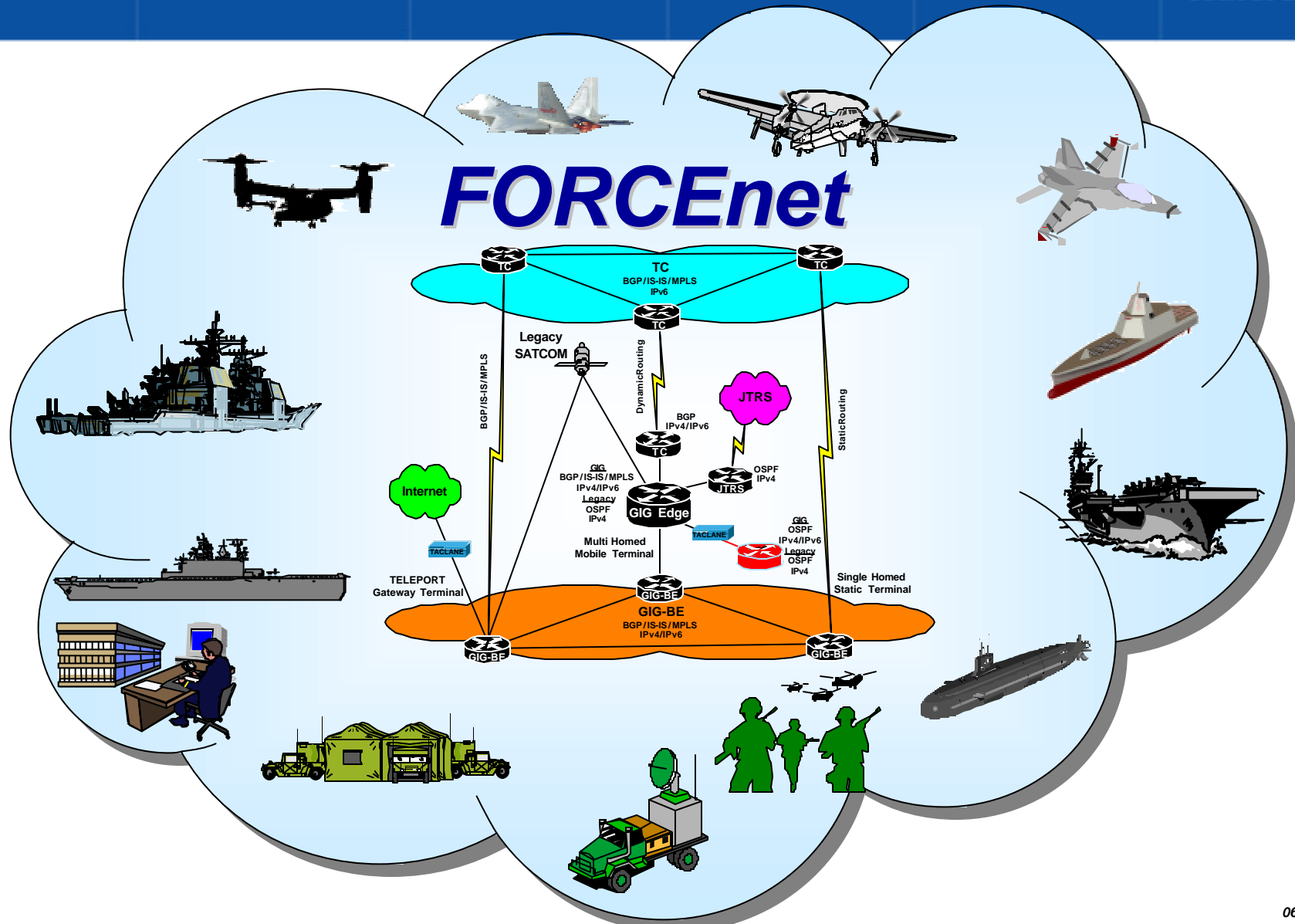
Robust Multi-tiered communications architecture consisting that shall ensure connectivity through the total threat environment...

Comms and Networks Panel Agenda Overview



- **Keynote**
 - 0945-1030 GIG – Mr Mike Kern, OSD NII
- **Track 1 Communications Infrastructure**
 - 10:30-11:30
- **Lunch 1130-1300**
- **Track 2 Networking**
 - 1300-1430
- **Break 1430-1500**
- **Track 3 Network Services**
 - 1500-1600
- **Track 4 Distributed Services**
 - 1600-1700

FORCEnet: Enabling and Connecting to the Grid 2012



Mr. Patrick M. Kern

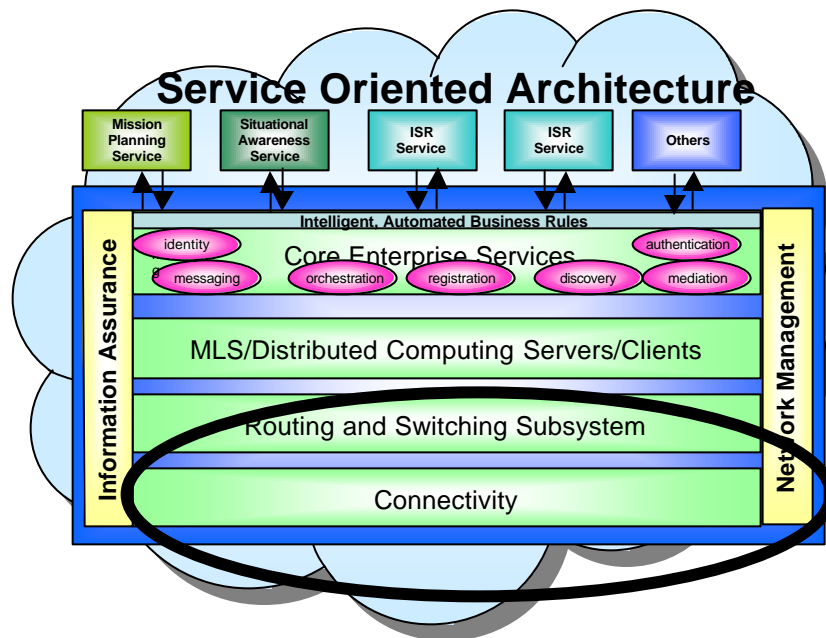
***Senior Systems Engineer, Net Centric Initiatives
Office of the Assistant Secretary of Defense
Networks & Information Integration***

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Communications Infrastructure Panel Introduction



FORCEnet enablers for robust Multi-tiered communications architecture consisting of a robust space backbone, air backbone, LOS, and terrestrial backbone that is protected against all potential threats commensurate with the operating environment and the criticality of the information being transported, and shall ensure connectivity through the total threat environment (e.g. conventional and nuclear).

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Communications Infrastructure Panel (Track 1) Speakers



Ms. Michele Bailey
Deputy Chief Engineer
SPAWAR 05
Transformational Communications

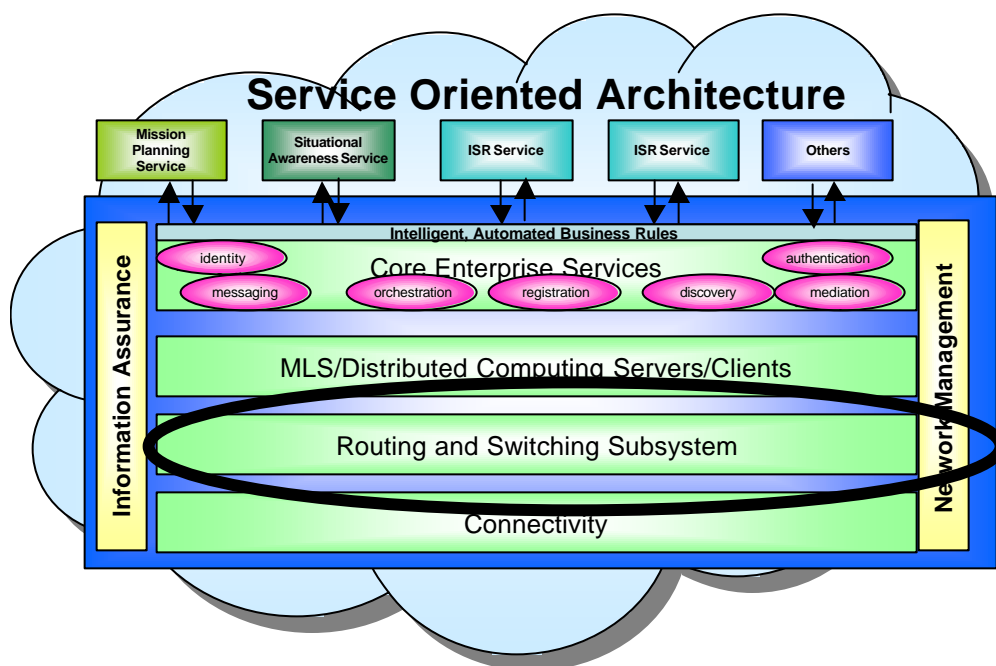
Dr. Clifton Phillips
Associate Technical Director
PEO C4I & Space
Joint Tactical Radio System

Mr. Bryan Scurry
Director of Operations
PEO Space Systems
Mobile User Objective System



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Networking Panel Introduction



FORCEnet enablers for ensuring performance requirements of real time apps are maintained across different domains (e.g. TSAT domain, JTRS domain) via end-to-end QoS. All paths off the ship are utilized to the fullest extent. Dynamic BW allocation. Assured and seamless end-to-end integration of disparate VoIP systems. Achieving every node IP addressable, IP Security, IP Mobility.

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Networking Panel (Track 2) Speakers



Mr. Bill Farmer
APM for ADNS, PMW 160
PEO C4I & Space
Converged V,V,D with QoS and Load Balancing

Mr. Mark Evans
Engineering Implementation Division Head
SPAWAR Code 053
Navy IPV6 Transition

Captain Rick Brennan, USN
OPNAV N71C1SP
Battle Space Networking

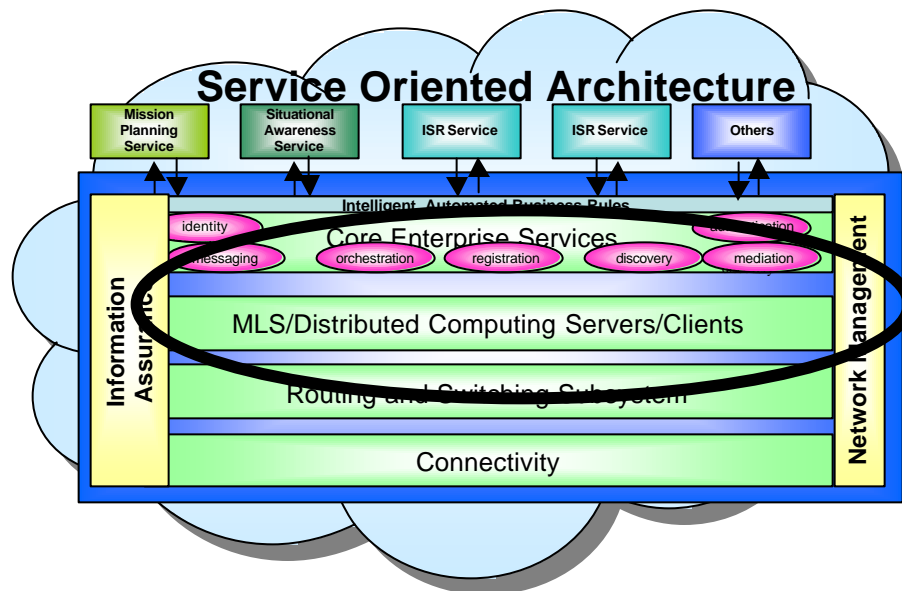
Dr. Cliff Warner,
PI for Intelligent Autonomous Network Management Project
SPAWAR Systems Center San Diego
Integrated Network Management

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Enterprise Network Architecture Panel Introduction



FORCEnet enablers to achieve full service assured network availability, information protection and delivery. Enterprise-wide hosting of central network storage and CPU services with online/offline backup capability meeting Fleet/SYSCOM/PEO requirements. Centralized sys admin allowing rapid security patch deployment and centralized monitoring. Ability for simultaneous multi-level access for classified computers. Improved availability/ reliability of overall network allowing uninterrupted access. Support of embarking components, coalition partners, and joint forces.

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Enterprise Network Architecture Panel (Track 3) Speakers



Mr. Rob Wolborsky
Program Manager, PMW 160
PEO C4I & Space
Enterprise Network Vision

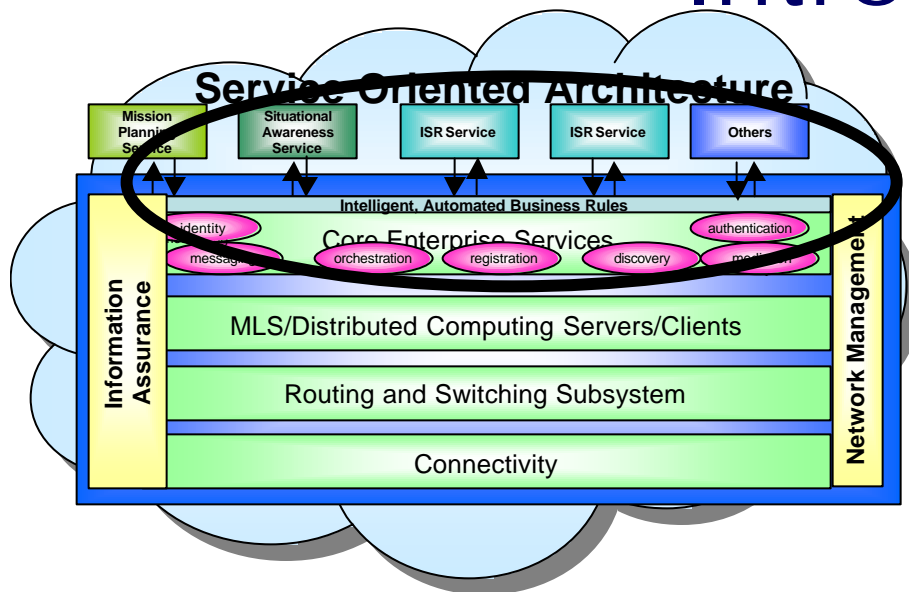
CDR Scott Heller, USN
Assistant Program Manager Cross Domain Solutions
PEO C4I & Space
Cross Domain Solutions

CDR Dan Currie, USN
Deputy Division Head, PMW 160.4
PEO C4I & Space
Computer Network Defense



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Enterprise Services Panel Introduction



FORCEnet enablers to achieve the capability for uniquely identifying, finding, and publishing services, certificate information, organization's relationships and email addresses. Ability for DoD Enterprise systems to discover and manage metadata artifacts necessary for exchanging and understanding data components within the enterprise.

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Enterprise Services Panel (Track 4)

Speakers



Mr. Terry Howell
Enterprise Services CHENG
PEO C4I & Space
Service Oriented Architectures

Commander Wayne Slocum
Technical Director for Navy Networks, Information Assurance, and
Enterprise Services (PMW-160)
FORCEnet Services Infrastructure

Mr. Randy Shirley
PM for Horizontal Fusion
SPAWAR Systems Center Charleston
Core Networking Services

Mr. Greg Settelmayer
Associate Technical Director for Policies and Standards
PEO C4I & Space
S&T Core Enterprise Services